



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,137	09/15/2003	Akihiko Itami	56232.94	3990

7590 04/20/2005

Cameron K. Kerrigan
Squire, Sanders & Dempsey L.L.P.
Suite 300
1 Maritime Plaza
San Francisco, CA 94111

EXAMINER

RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
----------	--------------

1756

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/663,137

Applicant(s)

ITAMI, AKIHIKO

Examiner

Christopher RoDee

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

72

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The instant claims are indefinite because it is unclear what units the electric field intensity (E) is measured in as currently presented in the base claim. This intensity (E) is a numeric value but it is not clear in the claim if this refers to an absolute voltage or some other value. Specification pages 72-80 describe this value as being in units of V/ μm and is the quotient of the potential in the unexposed area of the photoreceptor at a time of development divided by layer thickness of the photoreceptor. An amendment clarifying this value in keeping with the noted specification disclosure is suggested.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 1-065561 in view of Kawahara *et al.* in US Patent 5,821,021 and further in view of Yamazaki *et al.* in US Patent Application Publication 2003/0054269.

The JP document discloses a reverse imaging process comprising forming an electrostatic latent image on the surface of a photosensitive body (i.e., photoreceptor) by irradiation with laser light followed by reversal development with toner to form the image. The surface of the photosensitive body is given an initial charge of 500 to 900 V. A DC bias is applied during development that is 0 to 200 V lower than the initial charge. The photoreceptor has a structure as shown in the supporting drawings (p. 21). The layer 2 is a charge generation layer and the layer 4 is a charge transport layer. Based on an oral translation of the JP document, it appears that the charge generation layer has a thickness of from 0.03 to 20 microns while the charge transport layer has a thickness of from 10 to 40 microns (p. 7, left column). An oral translation of Table 4 shows a photoreceptor "I" having a 6 μm thick charge generation layer while the total photosensitive layer has a thickness of 21 μm . The JP document does not disclose the charge generation layer as containing a N-type charge generation material but does disclose the presence of a P-type material (i.e., a phthalocyanine). The JP document also does not disclose the claimed toner or (E) value.

Kawahara discloses a photosensitive material (i.e., photoreceptor) that contains both P-type and N-type charge generation materials. This photoreceptor has a charge generation layer and a charge transport layer with thicknesses of 0.01 to 10 μm and 5 to 50 μm , respectively (col. 5, l. 45-61; col. 11, l. 39+). The preferred N-type pigment is a perylene given by the general formula (2) (col. 6, l. 48-60). A preferred photoreceptor has 10 parts by weight of perylene given by the formula (4) and 1 parts by weight of the metal-free phthalocyanine given by the formula (5) (Example 1). The photoreceptors of Kawahara are given a charge so that the

Art Unit: 1756

resulting surface potential is 700 V (col. 12, l. 17; Table 1). The combined use of N-type and P-type charge generation material gives improved response to laser exposure, particularly at longer wavelengths (col. 2, l. 27-41).

Yamazaki discloses an imaging method comprising forming a latent image on a photoreceptor having an electrically conductive support, a charge generating layer and a charge transporting layer; developing the latent image with a developer containing a toner to form a toner image on the photoreceptor; and transferring the toner image onto an image receiving member, wherein the ratio of 50% volume particle diameter (Dv50) to 50% number particle diameter of the toner (Dp50) is within the range of 1.0 to 1.15, the ratio of the cumulative 75% volume particle diameter from the largest particle diameter (Dv75) to the cumulative 75% number particle diameter (Dp75) from the largest particle diameter of the toner is 1.0 to 1.20 and the number of toner particles having a particle diameter of not larger than $0.7 \times Dp50$ is at most 10% of the number of all the toner particles in the toner (Abstract). This toner has the advantage of giving high quality copies, excellent cleaning, and minimal color difference between initial image and after long run production.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to develop the image of the JP document with the toner of Yamzaki because Yamazaki teaches that this toner gives high quality copies, excellent cleaning, and minimal color difference between initial image and after long run production. This would be a recognized advantage to the artisan contemplating the JP reference. Further, the artisan would have found it obvious to use the charge generating materials of Kawahara in the invention of the JP document because Kawahara teaches that this material provides improved response to laser exposure, particularly at longer wavelengths. The artisan would have been expected to optimize the thickness of the charge transport layer in the JP reference within the reference's

Art Unit: 1756

disclosure and to start his optimization at specifically disclosed thicknesses, such as 10 μm , because the primary reference discloses these sizes as effective. The claimed value (E) would be obtained by selecting the charge generation layer at a thickness of 0.03 μm , the charge transport layer at a thickness of 10 μm , and using a development potential of 600 or 700 V, as shown in the JP reference's Table 5.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdr
7 April 2005



CHRISTOPHER RODEE
PRIMARY EXAMINER